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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,904	12/10/2003	Peter Ethan Staples	BLUE-P01	6237

49142 7590 11/29/2005

SCHOX PLC
209 N. MAIN STREET #200
ANN ARBOR, MI 48104

EXAMINER

FITZGERALD, JOHN P

ART UNIT	PAPER NUMBER
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2856

DATE MAILED: 11/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A. 72

Office Action Summary	Application No. 10/731,904	Applicant(s) STAPLES, PETER ETHAN	
	Examiner John P. Fitzgerald	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-17 is/are pending in the application.
4a) Of the above claim(s) 6,7 and 11-17 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 3-5 and 8-10 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 10 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

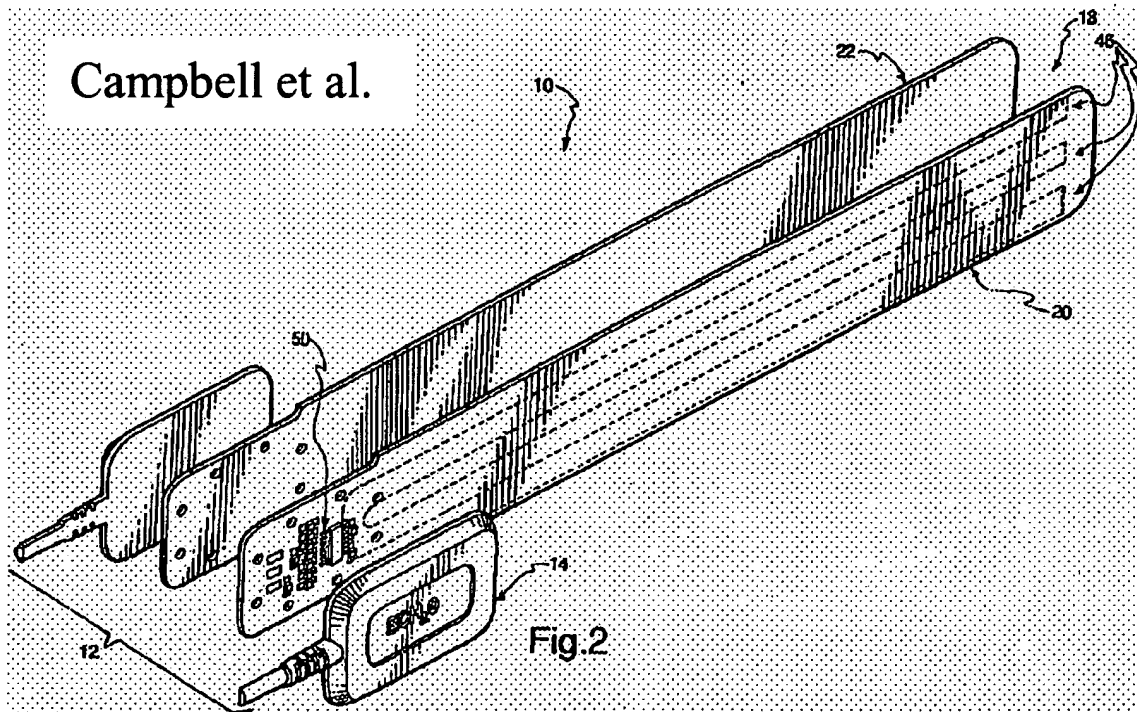
1. Applicant's arguments with respect to claims 3-5 and 8-10 have been considered but are moot in view of the new ground(s) of rejection.

However, the Examiner will address Applicant's argument that the Examiner has not established a prima facie case of obviousness in the combination of the base references and the Colman reference. The base reference need not provide the motivation to combine. The motivation to modify the base reference is within the Colman reference itself, in this case, establishing a stable (i.e. equilibrium) of moisture around the traces. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). Furthermore, In response to applicant's argument that it wouldn't be obvious to mount a porous member to the circuit board in any desired fashion, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 8 and 9 are rejected under 35 U.S.C. § 102(e) as being anticipated by US 20030015024 A1 to Campbell et al. Campbell et al. disclose a moisture sensor (10) to be inserted in the soil of a plant (Figs. 1-5) having a first circuit board (20, 22) with conductive traces (etched copper) (46) disposed on first and second surfaces of the circuit board (see Fig. 2 below); a processor (50) disposed on a second circuit board (note: two linear sections of platform) coupled to the conductive traces and configured to measure an electrical voltage across the conductive traces and to calculate the moisture in the soil (i.e. bulk materials) and an output device (wire cable) disposed and connected to the second circuit board.



Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claim 10 is rejected under 35 U.S.C. § 103(a) as being unpatentable over US 20030015024 A1 to Campbell et al. as applied to claim 8 and 9 above, and further in view of US 5,859,536 to Stockton. Campbell et al. disclose a moisture sensor having all the elements recited previously. Campbell et al. do not expressly disclose a moisture sensor wherein the output device is a wireless transmitter. Stockton teaches a moisture sensor (Figs. 1-4) having sensing electrodes (10, 12) inserted into soil of a plant (see Fig. 1) having a circuit board/processor capable of communicating wirelessly via infrared, microwave or radio signals (i.e. having a wireless transmitter) (Stockton: col. 3, lines 35-52). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a wireless transmitter, or any other type of information data transfer device, as taught by Stockton, modifying the moisture sensor disclosed by Campbell et al., thus allowing information/data regarding the moisture of the soil to be sent and subsequent control of watering devices such as sprinkler heads. (Stockton: col. 3, lines 50-52).

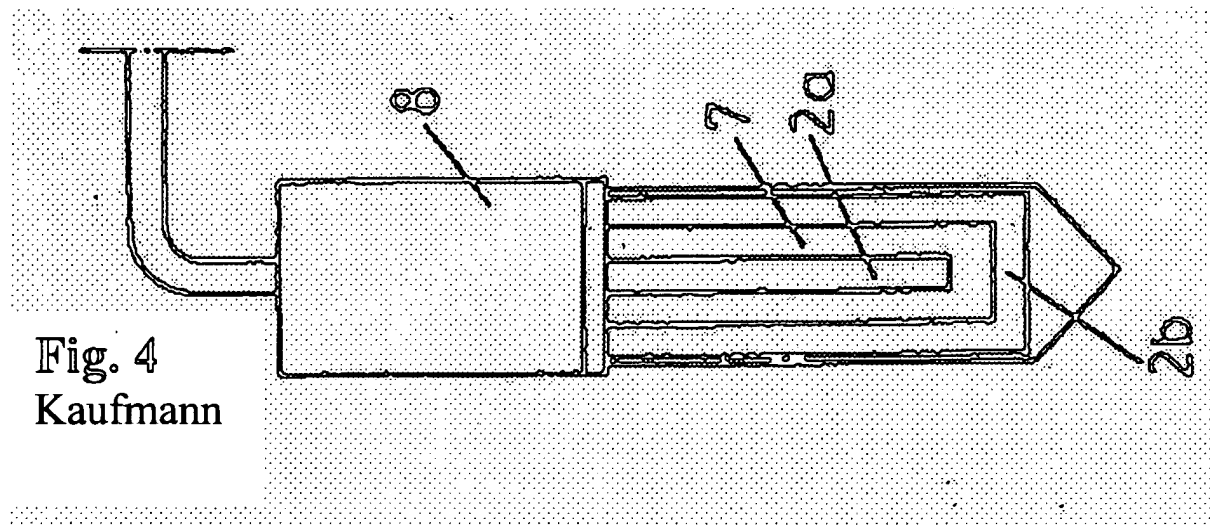
6. Claims 3-5 are rejected under 35 U.S.C. § 103(a) as being unpatentable over AT 403,213 B to Kaufmann (note: see attached translation) and US 2,526,636 to Colman. Kaufmann discloses a moisture sensor to be inserted in the soil of a plant (Figs. 1-4) having a first circuit board (7) with conductive traces (2a, 2b) disposed on first and second surfaces of the circuit board (see Fig. 4 below) (page 7 of provided translation, lines 1-12); a processor (8) coupled to the conductive traces and configured to measure an electrical voltage across the conductive

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traces and to calculate the moisture in the soil; an output device (wire cable) disposed and connected to the second platform of the plant and a base housing (i.e. epoxide) (page 7 of provided translation, line 4) coupled to the second platform and adapted to protect the second platform. Kaufman does not expressly disclose a moisture sensor further comprising a porous member formed with a cavity, wherein the conductive traces are located within the cavity and wherein the circuit board defines an anchor cavity and wherein the porous member is formed around the circuit board and through the anchor cavity thereby interlocking the circuit board and the porous member. Colman teaches a moisture sensor (Figs. 1-5) having electrodes (11, 12) that are wrapped in a porous member (glass fabric) (15) having a cavity wherein the electrodes are placed within (i.e. formed around), the electrodes being connected to processor circuitry (see Fig. 1). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a porous member and all of the recited elements, including forming it around the circuit board and the traces thereon, as taught by Colman, modifying the moisture sensor disclosed by Campbell et al., thus establishing moisture equilibrium conditions in which the electrodes are embedded (Colman: col. 2, lines 5-38). Lastly, in specific regards to the "anchor cavity" recited in claim 5, it is considered well with the design choice of one having ordinary skill to mount the porous member in any fashion, since applicant has not disclosed that defining an anchor cavity on the circuit board solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with any type of mounting scheme. Furthermore, circuit boards themselves typically have mounting/anchor cavities to mount various circuitry components (i.e. resistors, processors, capacitors, etc.) and are also

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formed with "anchor cavities" to mount to a structure, for example, a computer motherboard/circuit board to the computer CPU housing.



Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Fitzgerald whose telephone number is (571) 272-2843. The examiner can normally be reached on Monday-Friday from 7:00 AM to 3:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams, can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JF

06/27/2005



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